that the Siwalik camel was the ancestor of the single-humped African species, since, as will be shown below, there is a probability that the ancestor of the Bactrian species had a fuller dental series.

And here it may be well to mention that in adult modern camels there are normally five pairs of cheek-teeth in the lower jaw behind the tusks, or canines. The first pair (the first premolars) are, indeed, somewhat like a canine in form, and are separated by a gap from the canine in front and from the remaining four of the cheek-teeth behind. Of the latter, the last three pairs are the true molars, while the tooth in front of them represents the last of the typical series of four premolars.

Now in the lower jaw of a fossil camel recently described from the Pleistocene Tertiary strata of Rumania, by Herr Stefanescu, under the name of *Camelus alutensis*, there are six, in place of five, pairs of lower cheek-teeth, the tooth representing the third lower premolar being developed. Evidently we have here an ancestral type of camel, and it is noteworthy that, according to Dr. Nehring, this supernumerary lower tooth occasionally makes its appearance in living camels, although it is not mentioned in which species. The remains of the Rumanian camel were discovered on the left bank of the Aluta (Olt) river, a tributary of the Danube, not far from Slatina.

Evidently, remarks Dr. Nehring, this Rumanian camel was a member of the steppe-fauna, of whose former existence in central Europe evidence is afforded by the occurrence of fossil remains of the saiga, Kirghiz jerboa and other species now characteristic of the Volga steppes. Another fossil camel has also been described, under the name of *Camelus knoblochi* or *C. volgensis*, from strata in the neighbourhood of Sarepta, on the Volga, and also at the mouth of the Tscheremschan, in the Government of Samara, the number of lower teeth in this species being apparently the same as in modern camels.

As members of the steppe fauna, these Rumanian and Russian fossil camels were almost certainly the ancestors of the living Siberian species; and since the Rumanian species has a larger number of lower teeth than the still older Siwalik camel, it is manifest that the latter cannot have been the progenitor of the Bactrian species. Hence the reason for regarding it as the ancestor of the single-humped camel of Africa. The Russian camel-remains, it may be added, were found in association with molars of the mammoth.

Remains of camels have also been found in the Pleistocene strata of Oran and Ouen Seguen, in Algeria; and certain remains from the Isle of Samos have recently been assigned to the same genus, although the reference requires confirmation. The Algerian Pleistocene camel was doubtless the direct ancestor of the living African species, which it serves to connect with the extinct *C. sivalensis*.

With regard to the camels of the Gobi, which, as already mentioned, Dr. Nehring regards as truly wild, it is interesting to note that some years ago Dr. Langkavel described them as being much smaller than the domesticated breed, not, indeed, much superior in size to a horse with relatively slender limbs. Observations in confirmation of this statement are, however, urgently required; and any travellers who may visit the Gobi neighbourhood would do service to science if they would bring back skins and skeletons of the wild camels.

Nothing is more remarkable in connection with the Bactrian camel than its capacity for standing extremes of heat and cold, provided always that the climate be dry. Herr O. Lehmann (*Zeitschr. wiss. Geographie*, 1891, p. 27), for example, writes as follows:—

"The most severe winter cold of Asia cannot prevent the presence of the camel. In west Siberia, from the Kirghiz steppe to the neighbourhood of Lake Baikal, are camels found. . . . In Semipalatinsk the mean winter temperature falls to – 21°·9 C.; the most intense registered between the years 1854 and 1860 was – 49°·9. During his journey Przewalski experienced the most intense cold without losing a single camel. Throughout his whole journey across the Mongolian plateau he daily encountered a temperature of – 37°. . . . Again, in Zaidam, where camel-breeding establishments exist, a night temperature of – 23°·6 was observed, which in November was intensified to – 25°·2. In the neighbourhood of Tarai-nor, on the 50th parallel of north latitude, the Burjæts keep numerous camels, which even in winter are allowed to wander about without the slightest protection. . . . Here the camel reaches the 50th parallel, westward of Lake Baikal, on the Upper Yenisei, where the Samoyeds keep both reindeer and camels. Here, indeed, the breeding-area of the camel overlaps that of the reindeer."

In regard to its capacity for heat, the same author records the following observations:—"If the degree of cold that the Bactrian camel can withstand is wonderful, not less remarkable is the heat it can undergo. In the Gobi Desert Przewalski took the temperature of the ground in summer and found it to be 62°·5 C." R. L.

NOTES.

WE regret to see the announcement of the death of Prof. W. Schur, professor of astronomy in the University of Göttingen.

THE Antarctic exploration ship *Discovery* was inspected by the King and Queen at Cowes on Monday. Their Majesties were received by Sir Clements Markham, K.C.B., who presented Commander Scott, who in turn presented the officers of the ship and the scientific staff. The King showed great interest in the laboratories and the instruments for scientific work, which were explained by Mr. George Murray, F.R.S., who accompanies the ship to Melbourne, and Dr. H. R. Mill, who will go as far as Madeira in order to start the oceanographical observations on the way out. The ship left Cowes on Tuesday, with hearty wishes for a voyage free from calamity and fruitful in scientific results.

WE understand from the *Irish Naturalist* that Prof. A. C. Haddon, F.R.S., intends to resign the chair of zoology at the Royal College of Science, Ireland, which he has occupied since 1880, in order to devote more time to anthropological work.

THE death is announced, at San Francisco, of Dr. H. W. Harkness, known for his contributions to entomology and botany. For several years Dr. Harkness was president of the California Academy of Sciences, to which institution he presented his large collections of specimens of cryptogams.

THE *Express* states that Profs. Haeckel, Conrad and Fraas, of Jena, Halle and Stuttgart Universities respectively, announce that the sum of 1500*l.* has been placed at their disposal as a prize for the best work on the question, "What do we learn from the principles of the theory of heredity in reference to the inner political development and legislation of States?" Manuscripts must be in German and sent not later than December 1, 1902, to Prof. E. Haeckel, Jena.

ACCORDING to a *Times* correspondent, Dr. Berson and Dr. Suering, who made a balloon ascent from Berlin on July 31 and descended near Kottbus in the morning of the following day, succeeded in reaching an altitude of more than 10,300 metres. It was impossible to ascertain the greatest altitude attained, as both the aëronauts lost consciousness in consequence of the rarity of the air. The minimum temperature registered was – 40° C.

WE learn from *Science* that, aided by a special fund presented by a friend of the American Museum, Prof. Osborn recently sent out two expeditions especially in search of fossil horses—

one to Texas and one to eastern Colorado. Word has just been received at the Museum that the very first discovery made by the Texas party included a deposit of skulls of the three-toed horse, Protohippus, associated with parts of the limbs, feet and backbone. This is one of the stages especially desired in the long series leading up to the modern horse. The skulls are reported to be the best that have thus far been found, and this discovery is an auspicious opening to this special series of explorations.

THE fifth annual Fungus Foray of the British Mycological Society will be held at Exeter from Monday to Saturday, September 23–28. The club dinner will be held on September 24, after which the president, Prof. H. Marshall Ward, F.R.S., will deliver his presidential address. On September 25, Miss A. Lorrain Smith will read a paper on "The Fungi of Germinating Farm Seeds," and on the following day a paper on "Spore Formation in Yeasts" will be read by Mr. Barker.

IT has been found that one of the most effective methods for destroying locusts in humid climates is by propagating among them the well-known fungus disease. The Cape of Good Hope fungus, described by Dr. Sinclair Black, is the *Empusa acridii*. To employ it, a culture is prepared on moist bread crumbs and scattered in places frequented by the locusts. The locusts which consume the bread die, and their bodies are eaten by other locusts and thus the disease spreads. The method is less effective in dry weather.

MR. C. A. BENBOW, writing in the *Agricultural Gazette of New South Wales*, strongly recommends the introduction of the eland of Cape Colony into the scrub lands of New South Wales and Central Australia. This scrub land is almost valueless as pasture, especially in years of drought. The eland is, however, accustomed to feed on the same leguminous shrubs in South Africa which form the scrub of Australian lands. The animal is one of the largest of the antelopes, often equalling an ox in weight, is easily domesticated and produces meat of exceptionally fine quality.

IN the *Bulletin* of the American Geographical Society (No. 3, 1901), Mr. R. de C. Ward gives a note on the climate of Mammoth Tank, situated in the southern portion of the Colorado Desert, and one of the most interesting places in the United States from a meteorological point of view. The mean temperature of July is 98°·5, and of January 53°·9. The highest temperature recorded was 130°, in August, 1878, and the lowest 22°, in December, 1895, giving an absolute range of 108°; temperatures of 100° and over have been recorded in every month of the year except the four winter months, November to February. The mean annual rainfall for twenty-three years is 1·81 inches; the greatest amount in any one year was 5·48 inches, while in the two years 1897 and 1898 there was only a trace.

AN interesting paper was recently submitted to the Royal Academy of Belgium, by Dr. E. Vanderlinden, on the atmospheric conditions that accompany fog in that country. The inquiry is based upon an examination of some 200 synoptic charts, the winter and autumn fogs being studied separately from those which occur in summer. The author shows that the winter fogs are mostly connected with anticyclonic conditions, while those of summer occur during periods of shallow or secondary barometric depressions. The winter fogs rarely occur on the western side of an area of high barometric pressure. In reporting to the Academy upon the paper, M. Lancaster points out that most authors who treat of the question of the formation of fog only deal with very local areas, in which temperature plays the principal part, but that this kind of fog should not be confounded with the general phenomenon characteristic of winter fogs, which depend upon the barometric pressure. The most favourable conditions for fog formation are damp air and a temperature a little above freezing point. These conditions generally occur in winter with westerly winds and when the centre of the high-pressure area lies to the south-east of the point of observation, but M. Lancaster points out that the action of temperature alone is not sufficient to explain completely the occurrence of certain types of fog.

SINCE the article upon the recent work of the United States Weather Bureau appeared in NATURE of May 23 (p. 80), the Report of the Chief of the Bureau on the operations during the year ending June 30, 1900, has been received. In addition to the usual tables containing the results of observations made at Weather Bureau stations in the United States, Mr. E. B. Baldwin gives a detailed account of the meteorological observations made by him in Franz-Josef Land during the second Wellman expedition in 1898–1899. The lowest temperature experienced seems to have been recorded on February 1, 1899, when a minimum of forty-five degrees below zero Fahrenheit was observed. The means of the maximum and minimum temperatures recorded by the thermograph in the first three months of the year 1899 are as follows, in degrees Fahrenheit:—January, max. – 10°·9, min. – 24°·0; February, max. – 5°·4, min. – 19°·4; March, max. 16°·7, min. – 26°·8. A very complete record of auroral phenomena was kept by Mr. Baldwin, and has been published in the U.S. *Monthly Weather Review* for March, 1901.

THE representation of electromagnetic phenomena by mechanical models was brought into prominence many years ago by Maxwell's well-known model of a dicyclic system representing the mutual induction of two currents. Prof. Garbasso now sends us a number of papers dealing with the construction of mechanical models representing the discharge of condensers, in particular in the case when the armatures of a condenser are connected by two wires in parallel. The most recent of his papers, dealing with the maximum value of the electrokinetic energy of mutual induction of two currents and its physical interpretation, appears in the *Nuovo Cimento* for June (5, i.)

A NOTE on some discontinuous and indeterminate functions by Mr. Charles Kasson Wead in the *Bulletin* of the Philosophical Society of Washington is rather suggestive. The treatment is based on the fact that if $u = (x/a)^{\infty}$, $u = 0$ or ∞, according as $x <$ or $> a$, so that if N is any positive number greater than unity, $N^{-u} = 0$ or 1 according as $x >$ or $< a$. By means of this factor the author shows how it is possible to construct equations representing broken lines or portions of plane areas within or without given plane curves. As physical applications, the author shows how to represent by a single expression the potential of a solid sphere, or the attraction of a spherical shell at points both inside and outside the sphere.

WE have received several papers by Prof. Sommerfeld, dealing with the theory of the diffraction of Röntgen rays. One of these is published in the *Zeitschrift für Mathematik und Physik*, xlvi. 1, 2, and abstracts are also given in the *Physikalische Zeitschrift*, ii. The special problem which forms the subject of Prof. Sommerfeld's work is the mathematical investigation of the results of the hypothesis put forward by Wiechert and Stokes, according to which Röntgen rays consist in an impulsive disturbance propagated through the ether. The author considers the problem of diffraction past a screen in the form of a half-plane and allied problems, and compares his results with those found by Haga and Wind and others. The single non-periodic impulse may be said to represent one extreme case of ray-propagation, while the purely periodic wave represents the other extreme. While actual Röntgen rays and light-rays probably only approximate to these extreme cases, the agreement between Prof. Sommerfeld's conclusions and experimental results affords considerable evidence in favour of the above theory of Röntgen rays.

IN the *Johns Hopkins University Circular*, No. 152 (vol. xx. pp. 79–80), Mr. C. C. Schenck gives a short description of a series of investigations undertaken with the twofold object of (1) separating the principal lines in the spark spectrum of cadmium into three groups having characteristic properties, (2) studying the constitution of the various regions of the spark and its spectrum by means of a revolving mirror. It was found that a preliminary division of the spectrum lines into groups was feasible by noting the changes produced in the spark spectrum when the period of the condenser in the secondary circuit was varied by increasing the self-induction. Kirchhoff in 1861, and Thalen in 1866, stated the effect in general terms, and Hemsalech has recently carried the investigation much further. The spark was produced by an induction coil supplied with alternating current; secondary condenser about ·016 microfarad, spark length 6–8 mm. The spectrum was photographed with a large concave grating of 21 feet radius. The three groups of lines described appear to correspond to the well-known "long" and "short" lines always seen when an image of a light source is thrown on the spectroscope slit, but no wave-lengths are given for comparison. It is stated, however, from an examination of the conditions giving rise to the three groups of lines, that the average temperature of the metallic vapours in the arc is probably *higher* in some cases than in the spark. The experiments with the rotating mirror indicated that the chief arc lines had a duration more than twice as great as that of the chief spark lines. Also that the principal spark lines (both of cadmium and magnesium) are due almost entirely to the curved streamers seen branching from the spark, while the chief arc lines are due in part to the streamers and in part to a luminosity which fills up the spark gap and persists after the streamers cease.

THE "Birds of Western New York" is the title of an article by Mr. E. H. Eaton which appears in vol. iv. of the *Proceedings* of the Rochester (N.Y.) Academy of Science. Although at first sight this may appear nothing more than an ordinary local fauna-list, it is really worth the best attention of every naturalist on account of the elaborate manner in which the subject is treated. Specially noteworthy are the diagrammatic "migration and residence tables," in which it is attempted to show graphically "the times of occurrence and relative abundance of the birds definitely recorded for this region." The essay is, in fact, an admirable example of the way in which local faunas should be recorded and described.

THE most noticeable feature in the Report of the American Museum of Natural History for 1900 is the number of expeditions which have been undertaken with the view of adding to the ethnological and palæontological collections. Although the majority of these were confined to North America, one—the Jesup North Pacific Expedition—was despatched to the Amur valley, while two were sent to South America. The former, it is reported, has brought back a valuable series of specimens illustrating the ethnology and anthropology of the Ainu of Japan; while of the two latter, the mission to Patagonia has acquired a valuable collection of the extinct mammalian fauna of that country. But the amount of strictly scientific work accomplished has not hindered attention being paid to the educational function of the Museum; and the president, in his report, calls special attention to the opening of the new and spacious "auditorium," where secondary education is to be offered to the public in the form of popular lectures.

DR. B. HAGEN gives in *Globus* (Bd. lxxix. p. 245) a beautifully illustrated account of his ascent of Kaba, in Sumatra, which is 1650 metres in height. This volcano has previously been ascended by A. W. P. Verkerk, R. D. M. Verbeek and H. O. Forbes.

THE Berlin Museum für Völkerkunde has recently been enriched by the addition of a number of wooden human effigies from German New Guinea, some of which are described and figured in *Globus* (Bd. lxxix. No. 22, p. 352) by D. Rudolf Pöch. The head appears to be hidden in most of them by a mask, which has a long beak which looks more like a snout than a bird's beak; but from the carving above its insertion there can be little doubt that the bird that is represented is the hornbill, which is a magical or symbolic bird all over the Malay region and throughout the greater part of New Guinea as well. On the top of the mask a figurine of a cuscus is often carved. We still await an explanation of these remarkable objects.

THERE is an interesting little paper by M. Félix Regnault, illustrated by numerous figures, in the *Bulletin de la Société d'Anthropologie de Paris*, 1900, No. 6, on Greek terra-cottas from Smyrna. In the hundreds of specimens in the Museum in the Louvre there are many beautiful ones after the manner of the famous figurines from Tanagra and Myrina; some are grotesque, others are ethnic types, anatomical studies and even illustrations of pathological conditions. It is with the latter that the present paper deals. Various examples of facial deformations are given, such as facial paralysis and adenoid growths. Pronounced acrocephaly and scaphocephaly, as well as illustrations of idiots and degenerates, were moulded by these observant potters. The other articles in this journal are mainly of interest to professional anthropologists.

IN his "Laboratory Outlines for use in an Introductory Course in Somatology" (*American Anthropologist*, n.s. vol. iii. p. 28), Mr. Frank Russell has hit on a very useful idea, which, however, is susceptible of improvement. For example, no indication is given of the system of head-form nomenclature introduced by Sergi; the system of the Italian anthropologist, as a whole, may be cumbersome and difficult to grasp, but his primary forms are readily recognisable and are of distinct classificatory value. Like the majority of anthropologists, Mr. Russell omits the valuable series of radial measurements that are taken from the ext. aud. meatus and which can be compared with similar measurements made on the living. The prosopic, &c., measurements should be placed in the nasal and not in the orbital category. If Mr. Russell were to reconsider his schedule in some details and were to state where the terms, measurements and indices were described in readily accessible publications, or, better still, were to republish this information, he would produce a pamphlet which would be of very great use to students of physical anthropology.

MR. JAMES STIRLING, Government geologist of Victoria, has prepared a report on the brown coal industry in Germany and Austria, which has been issued by the Department of Mines, Victoria, through the Agent-General in London (1901). The main object is to promote a similar development of brown coal production in Victoria, where such fuel would be of service on branch railway lines and for goods traffic where a slow rate of speed is maintained.

FROM Indiana we have received the twenty-fifth annual report for the Department of Geology and Natural Resources of the State geologist, Mr. W. S. Blatchley. A large part of this report is taken up with particulars about marls and limestones and the manufacture of cement; the petroleum industry is also dealt with, and Mr. Blatchley describes two new species of salamanders from Tennessee. In addition, there is a monograph on the Devonian fossils and stratigraphy of Indiana, by Mr. Edward M. Kindle. The fossils are illustrated in thirty-one plates, and some new species of Mollusca and Brachiopoda are described.

THE Eocene deposits of Maryland are elaborately described and illustrated by Prof. W. B. Clark and Mr. G. C. Martin in one of the handsome volumes issued by the Maryland Geological

Survey (1901). Materials do not exist for a detailed correlation of the strata with those in Europe, as the few identical species have a wide range in time, but there is little doubt that the Maryland deposits represent a considerable portion of the Eocene series. In the palæontological section the authors personally deal with the Echinodermata, Brachiopoda and Mollusca, and have been aided by specialists in other groups. The work is illustrated by pictorial views, maps and sections, and numerous figures of fossils.

WE have received the general report of the Director, Mr. C. L. Griesbach, on the work of the Geological Survey of India for the year ending March 31, 1901. Eight officers have been occupied in field-work. Among the regions examined are the Shan States in Burma, where great difficulties had to be encountered in the extensive forests and dense undergrowths, while frequently the actual rock is covered by a soil-cap fifty or more feet in thickness. Evidence has, however, been obtained of older crystalline rocks and of Lower Silurian or Ordovician, while the occurrence of Devonian, which had been inferred by Mr. P. N. Datta, has been confirmed by Mr. La Touche, who found *Calceola sandalina*. The presence of Triassic rocks was first recognised by Mr. Datta. In Assam, Tertiary, Cretaceous and older strata have been mapped by Mr. P. N. Bose; in Himalayan regions, Dr. A. von Krafft has been at work on Triassic rocks; and in Baluchistan Mr. E. Vredenburg has examined the complicated structure of the Chapar range, where numerous folds and overthrusts occur among Cretaceous and Tertiary strata. The subject of landslips has been locally dealt with by Mr. T. H. Holland, and special attention has been given to gold-bearing regions and to water-supply. In palæontology, aid has been received from Dr. F. L. Kitchin in England, Prof. Dr. Uhlig in Austria and Prof. R. Zeiller in France.

ONE of the recent publications of the Geological Survey of Egypt is devoted to a description of Farafra Oasis, by Mr. Hugh J. L. Beadnell. This wide depression, the "Land of Cattle" of the ancient Egyptians, lies in the Libyan Desert far west of Assiut, one of the most important towns of Upper Egypt. Although occupying a large area, the oasis appears to be of little importance from an economic point of view, being, in fact, a stretch of low desert with about twenty isolated "bubbling springs" (Farafra), most of them on the western side. The water is entirely derived from white, chalky limestone of Upper Cretaceous age, which, as observed by Prof. Zittel, forms the plain and is overlaid by Lower Eocene beds, the strata being bent into a gentle anticline. The depression has an irregular triangular shape with the apex to the north and is bounded by steep cliffs of Eocene strata on the east and west, while to the south the floor rises gradually for many miles until a distant escarpment is reached. A large part of the floor is covered with blown sand, and the action of this drifting material has eroded the chalk and left on the surface of the plain numerous fragments and masses of iron pyrites and marcasite derived from that formation. The author differs from Zittel in believing that there is a considerable break between the Cretaceous and Eocene strata. The former rocks are grouped as belonging to the Danian division, but the fossils have yet to be critically examined.

THE additions to the Zoological Society's Gardens during the past week include two Indian Wolves (*Canis pallipes*) from India, presented respectively by Colonel Lloyd and Mr. W. B. Cotton; a Rhesus Monkey (*Macacus rhesus*) from India, presented by Miss E. M. Berney; a Demoiselle Crane (*Anthropoides virgo*), a Lesser Black-backed Gull (*Larus fuscus*) from North Africa, presented by Dixon Bey; a Puffin (*Fratercula arctica*), British, presented by Mr. H. C. Price; a Cinereous Vulture (*Vultur monachus*), three Indian Rat Snakes (*Zamenis mucosa*) from India, presented by H.E. Sir H. A. Blake, G.C.M.G.; two American Jabirus (*Mycteria americana*) from South America, presented by H.E. Sir W. J. Sendall, G.C.M.G.; three Chameleons (*Chamaeleon vulgaris*) from North Africa, presented by Mr. A. Robinson; a Patas Monkey (*Cercopithecus patas*), a Green Monkey (*Cercopithecus callitrichus*), a Campbell's Monkey (*Cercopithecus campbelli*), a Bell's Cinixys (*Cinixys belliana*), an Eroded Cinixys (*Cinixys erosa*) from West Africa, a Pinche Monkey (*Midas oedipus*) from Colombia, two Springboks (*Gazella euchore*) from South Africa, two Small Hill Mynahs (*Gracula religiosa*) from India, deposited; two Common Jackals (*Canis aureus*), two White Cranes (*Anthropoides leucogeranos*), two Imperial Fruit Pigeons (*Carpophaga*, sp. inc.), a Purple-shouldered Pigeon (*Crocopus phoenicopterus*), three Andaman Teal (*Querquedula albigularis*) from India, received in exchange.

OUR ASTRONOMICAL COLUMN.

SEARCH EPHEMERIS FOR ENCKE'S COMET.—A circular from the Centralstelle at Kiel furnishes the following ephemeris for the expected appearance of Encke's Comet:—

Ephemeris for 0h. *Berlin Mean Time.*

1901.	R.A. h. m. s.		Decl. ° ′
Aug. 8	6 16 55	...	+31 34·4
9	23 44	...	31 29·0
10	30 40	...	31 22·2
11	37 42	...	31 13·7
12	44 52	...	31 3·5
13	52 7	...	30 51·5
14	6 59 29	...	30 37·8
15	7 6 56	...	+30 22·2

VARIATION OF EROS.—In the *Comptes rendus*, vol. cxxxiii, pp. 262–265, M. André presents the results of the reductions of observations made at the observatory of Lyons since February 1901. Three observers made independent estimations of the magnitude of the planet at intervals of five minutes. It is notable that the determination of the times of minima appears much more accurate than that of the maxima, the mean errors from a single observation in the two cases being ± 3·3 and ± 7·2 minutes respectively.

From the whole of the observations the period deduced is

5h. 16m. 15·2s.

Further notes are given concerning the change in form of the light curve, consisting chiefly in the two sections becoming more nearly equal than was the case when the variability was first detected.

CELESTIAL OBJECTS HAVING PECULIAR SPECTRA.—*Circular No.* 60 from the Harvard College Observatory contains a list of 59 objects found by Mrs. Fleming from an examination of the Draper Memorial photographs, which exhibit peculiarities in their spectra. The positions are given for 1900, and accompanying notes describe the special features of the objects, which include 19 gaseous nebulæ, 6 bright line stars of Type I., and 22 stars of Type V. One of the gaseous nebulæ is noted as showing bright lines at $\lambda 5007$, $H\beta$, $H\gamma$, $H\delta$ and $H\epsilon$. A great number of these objects (28) are situated in the region of the Large Magellanic cloud.

It is also noted that the bright $H\beta$ in the spectra of η Centauri (A.G.C. 17739), and κ Apodis (A.G.C. 20878), has been found to show indications of variability.

MOTION OF α PERSEI IN THE LINE OF SIGHT.—Prof. H. C. Vogel has responded to the appeal made by Mr. Newall for observations of the radial velocity of this star, which, from spectrograms obtained at the Cambridge Observatory, showed indications of a period of variability of 4·2 or 16·8 days. The spectra obtained at Potsdam are only about half the scale of the Cambridge plates. Photographs of the spectrum were obtained on six nights during November 1900, for preliminary testing, and others during December 1900 and January 1901, which were measured and reduced for velocity. The result of determinations from thirteen plates is given as −3·22 km., relative to the sun. No indication of variation is found, and the adopted velocity is in fair accordance with the value −2·4 km. obtained by Campbell. (*Astrophysical Journal*, xiii. pp. 320–323.)